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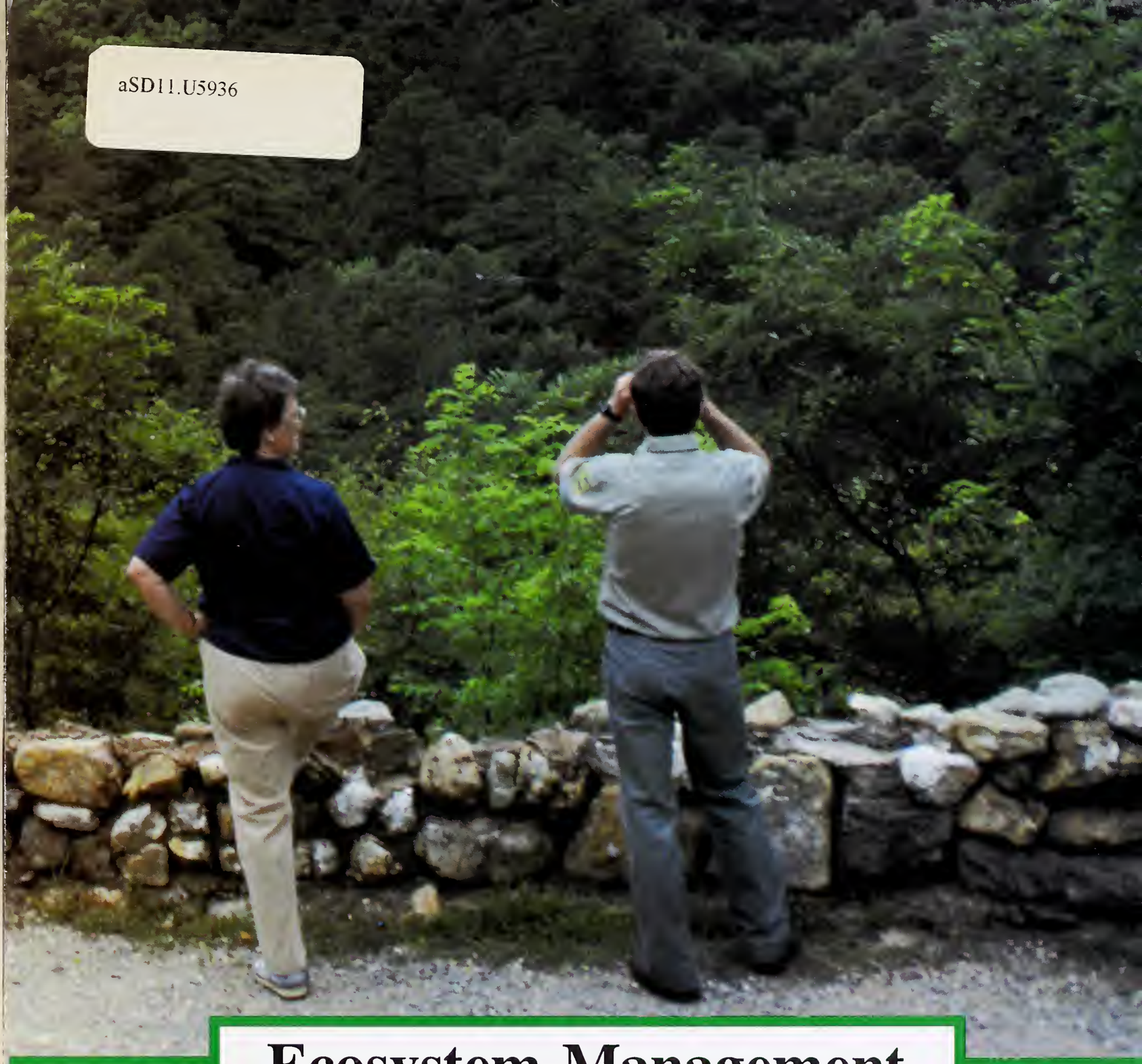


Ecosystem Management

Ouachita National Forest

Forest Service

United States Department of Agriculture

Ecosystem Management is stimulating managers, scientists, and citizens alike to seek better understanding of the processes that sustain ecosystem vitality, resilience, and beauty. What key roles are played by fungi, small mammals, insects, and decaying wood? How rapidly are nutrients replaced following timber harvests? How do people's uses and values fit into ecological systems?

Researchers from the Forest Service and universities are working with managers of the Ouachita National Forest closer than ever before to answer questions like these. Monitoring, inventories, and information tools are also important means of revealing ecological relationships. Currently we monitor water and air quality, customer satisfaction, historic resources, recreation impacts in wilderness, and populations of songbirds and other wildlife, to name a few.

UNDERSTANDING ECOLOGICAL RELATIONSHIPS

Alternatives to Clearcutting

Scientists are now intensively studying the ecology of pine and pine-hardwood forest stands in the Ouachita Mountains. They will compare ecosystem conditions before and after timber harvest using a range of partial-cutting methods. These methods have replaced clearcutting on the Ouachita National Forest. Researchers from many disciplines are working together to assess plant diversity, birds, small mammals, game habitat, soils, insects and diseases, scenic beauty, tree growth, and logging efficiency.

Large-Scale Research

Future research will focus on how ecosystems function under different management strategies at scales larger than individual stands. Many important ecological relationships can be understood only at the scales of watersheds or landscapes.

Social Context Research

Understanding people's historic and current relationships to the Ouachita Mountains and the Forest Service is a vital part of Ecosystem Management. Social and cultural relationships will be explored as part of the large-scale research effort.

Basin Area Stream Surveys

Forest Service specialists are monitoring changes in physical, chemical, and biological characteristics of streams to improve our understanding of natural fluctuations and the effects of management. Basin Area Stream Surveys, initiated in 1989, include six Ouachita National Forest streams. Pairs of streams in each of three regions of the Forest provide comparisons between lightly managed areas and areas with timber harvest.

Sensitive Species Inventories

The Ouachita National Forest has co-sponsored surveys for sensitive plants and animals for the last 4 years. These inventories are helping to ensure that habitats in need of special care or management are recognized and protected.

Geographic Information System

A Geographic Information System is a computerized mapping and information system that allows us to integrate and display many kinds of ecological and cultural relationships across the Ouachita National Forest. We have just begun to use this tool.

Ecological Classification

The Forest Service and partners are developing ecological classification systems that reflect soils, landforms, and vegetation. Such systems will complement existing resource inventories and promote better understanding of ecological variation across landscapes.

Red-cockaded Woodpecker

Researchers are studying ecological relationships in red-cockaded woodpecker habitat to support efforts to recover this endangered species. Studies of rat snakes and flying squirrels are examining how these species influence the woodpecker's ability to raise young. Other scientists are investigating the role of fire in the ecosystems inhabited by the woodpeckers.

Ecosystems include people. Ecosystem Management goals therefore provide for people who look to national forests for their livelihoods, recreation opportunities, and inspirational experiences. The best way to achieve such goals is to involve affected people in planning and decision-making. Under the banner of Ecosystem Management, we are reaching out in new ways to involve and communicate with people.

INVOLVING PEOPLE

Ecosystem Management Advisory Committee

We are working closely with the Ecosystem Management Advisory Committee, 13 citizens who are experts in a wide range of disciplines. Committee members are assisting our move toward ecosystem management by reviewing proposals in open meetings.

Communication and Education

We are devoting extra energy to field trips, presentations, meetings, and mailings to promote mutual understanding among people interested in the Forest. Programs such as the Caddo Aquatic Learning Center and Adopt-A-School are exposing young people to ecology and forest management through hands-on activities.

Working Groups

Citizen working groups and steering committees have been formed to help set guidelines for specific projects. These include an ecosystem restoration project that is using six citizens from diverse backgrounds to help plan the management of about 100,000 acres near Waldron, AR. Several steering committees are also helping set guidelines for wilderness management.

Management Partnerships

We are forging partnerships to accomplish management actions too. Construction and maintenance of trails, stream monitoring, wildlife habitat improvement, creation of walk-in hunting areas, and construction of fishing ponds are all being done by individuals and organizations willing to express their interests by sharing their own time, effort, and funds.

Research Partnerships

The large research program on the Ouachita National Forest is a result of partnership with the Southern and Southeastern Forest Experiment Stations and researchers from many universities. More than 40 scientists from six states are bringing fresh ideas and expertise to management of the Ouachita National Forest.

Workforce Diversity

Applications of Ecosystem Management are enhanced by our ongoing effort to diversify our workforce. By employing people from many cultural and professional backgrounds, we broaden our perspectives and improve our understanding of the many ways people value forests. Like healthy natural systems, the Forest Service benefits from diversity.

To make Ecosystem Management a reality, we must translate improved ecological understanding and expanded citizen involvement into a different kind of forest management—one that stresses achieving desired ecological conditions. The Forest Plan for the Ouachita National Forest is already changing to allow this new approach to take shape.

ON-THE-GROUND APPLICATIONS

Partial Cutting

Under Ecosystem Management on the Ouachita National Forest, we harvest trees to create open habitats, improve forest health, and provide opportunities for local businesses. However, we are using partial cutting methods rather than clearcutting to retain a more natural forest appearance and to more closely mimic natural disturbances such as wildfire and windthrow. Harvests are planned and carried out in ways that sustain plant diversity, water quality, visual appeal, soil productivity, forest vigor, and local economies. We are leaving unharvested live trees, undisturbed streamside zones, cavity trees, and downed logs to sustain important ecological processes. Regrowth of trees to replace those harvested usually occurs naturally from seed and root sprouts instead of by planting.

Habitat Diversity

Conservation of plant and animal diversity requires maintaining all forest stages--very young through very old--and all ecological community types. We use a variety of techniques, including timber harvests, no-cut zones, and prescribed fire, to maintain these varied ecological conditions across the landscape. The very rarest species and ecological communities need extra attention, and we identify and protect both large and small sensitive areas.

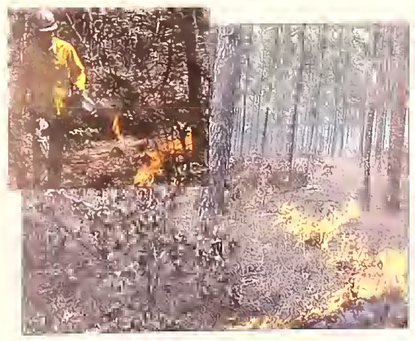
Old Growth

Older forests are important parts of ecological diversity often missing in the East. We are identifying and sustaining the oldest forests and woodlands that remain on the Ouachita National Forest and restoring other kinds of systems that have disappeared from the landscape.

Hardwoods

Under Ecosystem Management, we also are maintaining the native diversity of pines and hardwoods. When using partial cutting in pine-dominated areas, we retain hardwood trees along with pine. Hardwoods are also encouraged as a portion of the regrowth. Almost all hardwood-dominated areas are reserved from harvest and are progressing to an old growth condition.

Two demonstration projects are using ecological principles and enhanced public involvement to create landscape-scale examples of Ecosystem Management. Other large-scale demonstration projects are just beginning. Demonstrations such as these help us break new ground as we make the transition to Ecosystem Management.



Renewal and Recovery Project

Encompassing 100,000+ acres near Waldron, AR, the Renewal and Recovery Project will renew some of the open, fire-maintained forests that were once common in the Ouachitas, while supporting recovery of the endangered red-cockaded woodpecker. Many other plants, animals, and human uses will thrive in this species-rich ecosystem. Caring for entire ecosystems in this way will help keep other plants and animals from joining the list of endangered species.

Fourche Mountain Project

Located near Lake Nimrod, the Fourche Mountain Project spans about 8,500 acres fragmented by past clearcutting. We are using this area to demonstrate new approaches for restoring forest diversity, habitat connectivity, and older forests while continuing to yield wood products and hunting opportunities.

In Conclusion

All the changes stimulated by Ecosystem Management won't be obvious overnight. Many questions remain unanswered, and because ecosystems are complex and ever-changing, we will always have more to learn. Ecosystem Management is not a rigidly charted course but a journey into new and exciting territory. Will you join us?

For more information on national forests, their locations, recreation opportunities, and ecosystem management, contact:

Supervisor's Office
Ouachita National Forest
P.O. Box 1270
Hot Springs, AR 71902
Telephone (501) 321-5202

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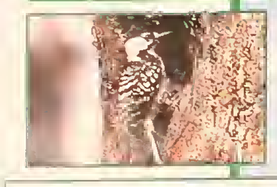

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WHAT IS ECOSYSTEM MANAGEMENT?

Ecosystem Management is a new approach to the care and use of national forests. This approach is aimed at meeting society's demands for forests that are as diverse, healthy, and beautiful as they are useful.

Central to this approach is a view of forests as complex webs of plants, animals, microbes, soil, water, nutrients, and air. People, with their diverse uses and values for forests, are parts of these webs. By acknowledging that all people are members of ecosystems, we hope to fulfill the vision expressed by Aldo Leopold in A Sand County Almanac:

"When we see the land as a community to which we belong, we may begin to use it with love and respect."

The Chief of the Forest Service announced the agency's move toward Ecosystem Management on June 4, 1992, saying that national forest management would never be the same. This approach grew from New Perspectives, an earlier program that tested many ecosystem management ideas.

What makes Ecosystem Management so different? What will it mean on the Ouachita National Forest?

In simplest terms, Ecosystem Management is encouraging:

- increased emphasis on understanding ecological relationships,
- more citizen involvement in planning the future of national forests, and
- on-the-ground forest management that reflects ecological goals.

aSD11 U5936

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Forestry Report R8-FR 33
May 1993

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